

WHAT IS CLAIMED IS:

1. A cathode ray tube device, comprising:
  - a cathode ray tube including an electron gun operating using electrostatic focusing;
  - a main deflection yoke and an auxiliary deflection yoke which are attached to the cathode ray tube separately in a direction of a tube axis of the cathode ray tube,
  - the main deflection yoke primarily deflecting an electron beam,
  - the auxiliary deflection yoke correcting raster distortion; and
  - a velocity modulation device disposed on a cathode side of the auxiliary deflection yoke,
  - the velocity modulation device including a velocity modulation coil to modulate scanning beam velocity,
  - all or part of a circumference of the velocity modulation coil being covered with material having an initial permeability of at least 10 at 2 MHz.
2. A cathode ray tube device according to claim 1, wherein the velocity modulation coil has a shape of a saddle.
3. A cathode ray tube device, comprising:
  - a cathode ray tube including an electron gun operating using electrostatic focusing;
  - a main deflection yoke and an auxiliary deflection yoke which are attached to the cathode ray

tube separately in a direction of a tube axis of the cathode ray tube,

the main deflection yoke primarily deflecting an electron beam,

the auxiliary deflection yoke correcting raster distortion; and

a velocity modulation device disposed on a cathode side of the auxiliary deflection yoke,

the velocity modulation device including a core and a velocity modulation coil to modulate scanning beam velocity,

the coil being toroidally wound over the core,

the core including material having an initial permeability of at least 10 at 2 MHz.

4. A cathode ray tube device, comprising:

an electron gun operating using electrostatic focusing;

a deflection yoke for deflecting an electron beam from the electron gun; and

a velocity modulation device disposed on a cathode side of the deflection yoke,

the velocity modulation device including a velocity modulation coil to modulate scanning beam velocity,

all or part of a circumference of the velocity modulation coil being covered with material having an initial permeability of at least 10 at 2 MHz.

5. A cathode ray tube device, comprising:

an electron gun operating using electrostatic focusing;

a deflection yoke for deflecting an electron beam from the electron gun; and

a velocity modulation device disposed on a cathode side of the auxiliary deflection yoke,

the velocity modulation device including a core and a velocity modulation coil to modulate scanning beam velocity,

the coil being toroidally wound over the core,

the core including material having an initial permeability of at least 10 at 2 MHz.

6. A cathode ray tube device according to claim 1, wherein the velocity modulation coil is covered with the material at an angle of at least 15° with respect to an x-axis.

7. A cathode ray tube device according to claim 1, wherein the material is separated from the two-pole, four-pole, or six-pole magnet with a gap equal to or more than 6 millimeters.

8. A cathode ray tube device according to claim 1, wherein the material having the initial permeability of at least 10 includes a mixture of a magnetic material and a resin.

9. A television set including a cathode ray tube device according to claim 1.